

REMARKSClaim Changes

Claim 1 is amended to recite “indicating that the subscriber is unable to acquire sufficient bandwidth on the data channel due to collisions with other transmitting subscribers on the data channel; and ... indicating that the data channel is fully utilized...” These changes are based at least on the description on page 3 lines 8-11, page 3 lines 20-22, and page 4 lines 3-10 of the specification as filed. Thus, no new matter is added.

Claim 7 is amended to clarify the claimed invention and to recite “the subscriber is unable to acquire sufficient bandwidth on the first data channel.” Support for the changes can be found on page 3 lines 8-11 and page 4 lines 3-10. Thus, no new matter is added.

Claims 19 and 20 have been newly added. New claims 19 and 20 include the limitations of claims 4 and 17, respectively. Support for the new claims can be found at least on page 4 lines 16-24 of the specification as filed. Thus, no new matter is added.

No amendment made is related to the statutory requirements of patentability unless expressly stated herein. No amendment is made for the purpose of narrowing the scope of any claim, unless Applicant had argued herein that such amendment is made to distinguish over a particular reference or combination of references. Any remarks made herein with respect to a given claim or amendment is intended only in the context of that specific claim or amendment, and should not be applied to other claims, amendments, or aspects of Applicant's invention.

Rejection of Claims 1-4, 7-9, 12-13, and 15-18 under 35 U.S.C. § 103 (a) as being unpatentable over US 7209447 (Marsh) in view of US 5740167 (Taketsugu)

Applicant respectfully traverses in part and amends in part. Applicant has amended the claims to clarify the invention. Applicant therefore respectfully requests reconsideration of the

rejection of claims 1-4, 7-9, 12-13, and 15-18 under 35 U.S.C. § 103(a) as being unpatentable over Marsh and Taketsugu.

Applicant respectfully submits that the combination of Marsh and Taketsugu does not show or suggest all the claim limitations as set forth in independent claims 1 and 7, as amended. For example, independent claim 1 recites “at a subscriber...during the step of transmitting, tracking a number of collisions on the data channel until the number of collisions reaches a threshold value indicating that the subscriber is unable to acquire sufficient bandwidth on the data channel due to collisions with other transmitting subscribers on the data channel” and “when the number of collisions reaches the threshold value thereby indicating that the data channel is fully utilized, transmitting a reassignment request to move to a new data channel” and independent claim 7 recites “receiving a reassignment request from a subscriber to move from a first data channel” and “upon receipt of the reassignment request by a central processor, assuming that the first data channel is loaded and the subscriber is unable to acquire sufficient bandwidth on the first data channel” which are not taught or suggested in the combination of Marsh and Taketsugu.

The Office Action on page 3 states that “Regarding claim 1, Marsh discloses a method comprising the steps of: at a subscriber: transmitting data on a data channel; during the step of transmitting, tracking a number of collisions on the data channel until the number of collisions reaches a threshold value; and when the number of collisions reaches the threshold value, transmitting a reassignment request to move to a new data channel (Abstract). Where the monitoring of the level of congestion on the transmission and the error rate data transmission is considered as tracking the number of collision and the rerouting to new path is considered as selected a new data channel.” This analogy is, however, a mischaracterization of Marsh.

Marsh is directed towards a method for monitoring data over asynchronous network for quality and rerouting the data, if the error rate of data transmission through the network exceeds a threshold. See Marsh Abstract. Marsh describes rerouting of data based on certain circumstances. In one example, Marsh reroutes data if the “transmission quality” of data transmission through the network degrades below a threshold. Marsh clearly states measuring

“transmission quality” by the number of lost, missing, or delayed data packets. See Marsh, Col. 2 lines 11-20. In another example, Marsh suggests counting data packets arriving at a switch in the network for a time interval T. The number of accrued data packets arrived during the time T is compared with an expected count value. If the difference between the accrued number of data packets is substantially below the expected count value, a decision is made that the packet error rate is too high to sustain acceptable quality levels of voice transmission and as a result Marsh reroutes data. See Marsh, Col. 5, lines 12-36. Marsh does not at all show or suggest “tracking a number of collisions on the data channel” as a measure of the transmission quality or error rate. Marsh teaches only measuring signal quality by measuring “transmission quality” or “packet error rate.” Applicant’s invention, on the other hand, teaches tracking the number of collisions with other transmitting subscribers on a data channel and once the number of collisions reaches a threshold value, it indicates that the data channel is now fully utilized and sufficient bandwidth no longer exists on that data channel. Consequently, any remaining data is transmitted on the new data channel upon receipt of a reassignment grant (as recited in dependent claim 4).

Marsh describes rerouting the packets when the signal quality has degraded below an acceptable limit and not when the current data channel is fully utilized and there is insufficient bandwidth available for the subscriber. See Marsh, col. 5, lines 29-34. Thus, Marsh does not teach “during the step of transmitting, tracking a number of collisions on the data channel until the number of collisions reaches a threshold value indicating that the subscriber is unable to acquire sufficient bandwidth on the data channel due to collisions with other transmitting subscribers on the data channel” and “when the number of collisions reaches the threshold value thereby indicating that the data channel is fully utilized, transmitting a reassignment request to move to a new data channel” as recited by Applicant’s amended independent claim 1.

The Office Action on page 4 further states that “Regarding claim 1... Marsh fails to mention if the tracking the number of collisions is done at the subscriber. However, Taketsugu teaches a method to select a new data channel when the packet collisions exceed a critical value as described the instant application (Fig. 5 and Col. 12, lines 36-39).” This analogy is, however, a mischaracterization of Taketsugu.

Taketsugu also fails to teach or suggest the above limitation. Taketsugu discloses determining whether an error rate in a packet exceeds a threshold value at a base station and if the error rate exceeds a critical value, the base station sends a “select new channel signal” to the subscribers. See Taketsugu, col. 5, lines 1-3 and col. 12, lines 36-39. Taketsugu does not disclose determining the number of collisions on the data channel at a subscriber. Moreover, Taketsugu describes rerouting the packets when the selected channel has deteriorated below an acceptable limit and not when the current data channel is fully utilized and there is insufficient bandwidth available for the subscriber. See Taketsugu, col. 7, lines 9-20. Thus, Taketsugu does not show or suggest “at a subscriber... during the step of transmitting, tracking a number of collisions on the data channel until the number of collisions reaches a threshold value indicating that the subscriber is unable to acquire sufficient bandwidth on the data channel due to collisions with other transmitting subscribers on the data channel” as recited by Applicant’s independent claim 1, as amended.

The Office Action on pages 5 and 6 further states that “Regarding claim 7... Marsh fails to mention if a reassignment request from a subscriber. However, Taketsugu teaches a method to select a new data channel when the packet collisions exceed a critical value as described the instant application (Fig. 5 and Col. 12, lines 36-39).” This analogy is, however, a mischaracterization of Taketsugu. Taketsugu also fails to disclose the above limitation. As explained earlier, Taketsugu clearly discloses sending a “select new channel signal” to the subscribers by the base station, when the error rate exceeds a critical value at the base station. See Taketsugu, col. 5, lines 1-3 and col. 12, lines 36-39. Thus, Taketsugu does not show or suggest “receiving a reassignment request from a subscriber to move from a first data channel” as recited by Applicant’s independent claim 7.

Furthermore, as explained above, receiving a reassignment or rerouting request in Marsh or Taketsugu indicates that the channel quality (or signal quality) is degraded below an acceptable limit. Neither Marsh nor Taketsugu show or suggest “upon receipt of the reassignment request by a central processor, assuming that the first data channel is loaded and the subscriber is unable to acquire sufficient bandwidth on the first data channel” as recited by Applicant’s independent claim 7, as amended. Consequently, the subscriber may be reassigned

to a new data channel (as recited in claim 15) or the subscriber may even be reassigned to the first data channel (as recited claim 17), or a busy signal may be sent to the subscriber when all data channels are determined to be loaded (as recited in claim 18).

Further, Applicant respectfully submits that Marsh and Taketsugu, taken alone or in combination, do not teach or suggest the features as set forth in Applicant's dependent claims. Applicant respectfully disagrees with the statement on page 4, of the Office Action that "Regarding claim 3... Taketsugu discloses the reassignment request is transmitted on a control channel (Abstract). The base station responses to user request on the control channel (control mode) when the base receives packets with a high error rate due to collision as described by the instant application." Applicant respectfully assert that this analogy is a mischaracterization of Taketsugu. Taketsugu fails to disclose the above limitation. In Taketsugu the "controlled access mode" is used to indicate a status of the data channel and not the status of a physically or logically independent data channel. In Taketsugu, multiple terminals transmit to a base station on a common channel on a "random access mode." When the error rate of the packets received at the base station becomes high, some specified terminals are allowed to transmit the packets on "a controlled access mode." See Taketsugu, Abstract. Thus, Taketsugu does not show or suggest "the reassignment request is transmitted on a control channel" as recited by Applicant's dependent claim 3.

Applicant also disagrees with the statement on page 4, of the Office Action that "Regarding claim 16... Taketsugu discloses a method when the error rate is above a threshold to select a new data channel, which implies the new data channel, is not loaded (fig. 6, items 600 and 601, Fig. 7, items 302 and 700 and Col. 7, lines 24-37)." Applicant respectfully asserts that this analogy is a mischaracterization of Taketsugu. Taketsugu's teaches checking if the error rate on the current channel is above a certain threshold (step 600). If so, the base station transmits a re-select command to the mobile stations (step 601). Taketsugu nowhere shows or suggests determining that the new data channel is not loaded. There is no description in Taketsugu that explains any reasons for Taketsugu for not reassigning the mobile stations to an already loaded channel. Thus, Taketsugu does not show or suggest "the new data channel is determined not to be loaded" as recited by Applicant's dependent claim 16.

For the above reasons, Applicant submits that independent claims 1 and 7 and dependent claims 3 and 16 are not obvious in view of the combination of Marsh and Taketsugu, and therefore that the rejection of claims 1 and 7 under 35 USC 103(a) should be withdrawn. Applicant requests that claims 1 and 7 now be passed to allowance.

Dependent claims 2-4, 8-9, 12-13, and 15-18 depend from, and include all the limitations of independent claims 1 and 7. Therefore, Applicant respectfully requests the reconsideration of dependent claims 2-4, 8-9, 12-13, and 15-18 and requests withdrawal of the rejection.

Rejection of Claims 5, 6, 10, 11, and 14 under 35 U.S.C. § 103(a) as being unpatentable over US 7209447 (Marsh) in view of US 5740167 (Taketsugu) and further in view of US 6222850 (Johnson)

As mentioned above, Applicant respectfully submits that Marsh and Taketsugu do not disclose “at a subscriber...during the step of transmitting, tracking a number of collisions on the data channel until the number of collisions reaches a threshold value indicating that the subscriber is unable to acquire sufficient bandwidth on the data channel due to collisions with other transmitting subscribers on the data channel” and “when the number of collisions reaches the threshold value thereby indicating that the data channel is fully utilized, transmitting a reassignment request to move to a new data channel.” Johnson fails to overcome the deficiency of Marsh and Taketsugu in that Johnson also does not show or suggest the above-mentioned limitation.

Johnson describes a method for calculating the percentage of data packets that were transmitted with collisions over a defined time interval, typically 4 seconds. See Johnson, col. 4, lines 62-64. Applicant’s dependent claims 5 and 6 provide further limitations to the threshold value recited in independent claim 1. Johnson does not disclose tracking the number of collisions until the number of collisions reaches a threshold value. Instead, Johnson discloses calculating the number of collisions over a time interval. Thus, Johnson fails to disclose such limitations.

Moreover, Taketsugu suggests a method of switching between two different data transmission types. The first type "Random Access Mode" allows for efficient data transfer. However, it can "starve" a mobile station of data transmission while another mobile station has full access to data transmission. In Random Access Mode, one mobile station monopolizes the channel. The second type "Polling Access Mode" (or controlled access mode) is less efficient at data transfer, but ensures that each mobile station gets a chance to transfer some data. Taketsugu determines when to switch between these modes of data transmission based on the error rates. Taketsugu switches back to the mode of data transmission which offers the highest data throughput efficiency. See Taketsugu, col. 5, lines 16-42. Whereas, Applicant's claim 11 describes disregarding the incoming data rate at which the reassignment request was received, if the incoming data rate is significantly lower than a value, which is not taught by Taketsugu.

None of the cited references taken individually or in combination teach or suggest that which is claimed by Applicant's invention. Claims 5, 6 and claims 10, 11, and 14 depend on what are believed to be allowable independent claims 1 and 7 and thus are in condition for allowance. Reconsideration and withdrawal of the rejection of claim 5, 6, 10, 11, and 14 under 35 U.S.C. § 103(a) as being unpatentable over Marsh in view of Taketsugu and further in view of Johnson is respectfully requested.

Conclusion

Applicant respectfully requests that a timely Notice of Allowance be issued in this case. Such action is earnestly solicited by the Applicant. Should the Examiner have any questions, comments, or suggestions, the Examiner is invited to contact the Applicant's attorney or agent at the telephone number indicated below.

Please charge any fees that may be due to Deposit Account 502117, Motorola, Inc.

Respectfully submitted,

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